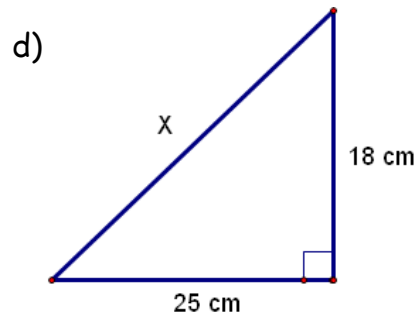
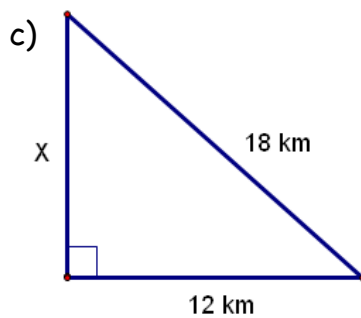
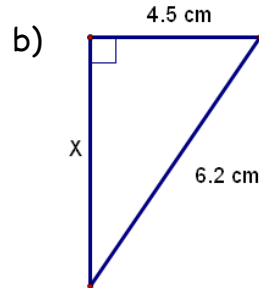
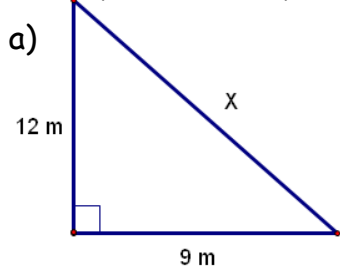


TRIGONOMETRY REVIEW Name: _____

For every answer, if rounding is needed, round **sides** to **2 decimals** and **angles** to **nearest degree**.

1) State the Pythagorean Theorem.

2) Solve for x in the following triangles:



3) A 15 ft ladder is placed 6 ft from the wall. How high does the ladder reach?

4) Jeremy is standing across a river from Tina. They discover that if they stand exactly opposite each other they can each hold one end of a 15 m rope. How long would the rope have to be to reach if Jeremy moved 12 m downstream and Tina stayed where she was?

1) $a^2 + b^2 = c^2$ / $c^2 - a^2 = b^2$ 2a) 15m b) 4.26 cm; c) 13.42km; d) 30.81 cm; 3) 13.75 ft 4) 19.21 m

5) Complete the following formulas:

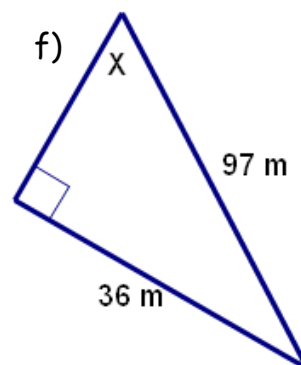
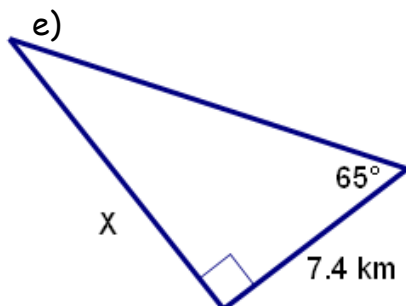
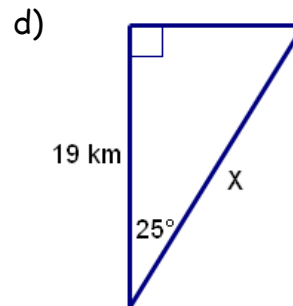
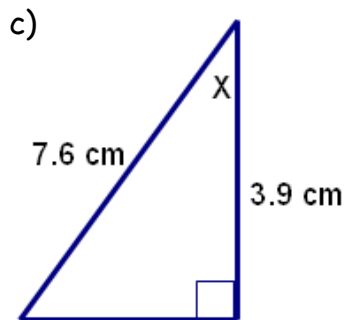
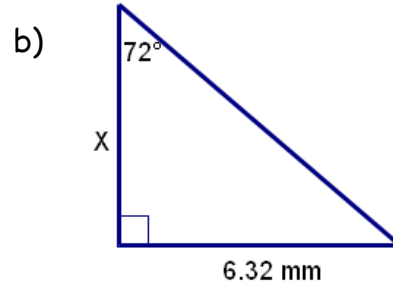
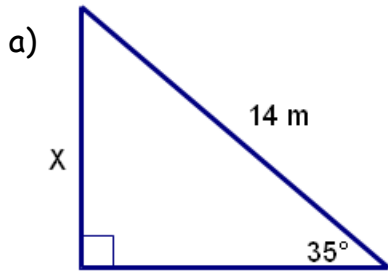
$$\sin \theta = \frac{o}{h}$$

$$\cos \theta = \frac{a}{h}$$

$$\tan \theta = \frac{o}{a}$$

(θ = angle)

6) Solve for x in the following triangles.



5) $\sin \theta = \frac{o}{h}$; $\cos \theta = \frac{a}{h}$; $\tan \theta = \frac{o}{a}$ 6a) 6.03 m; b) 2.05m; c) 59° ; d) 20.96km; e) 15.86 km; f) 22°

- 7) The length of the kite string is 6.8 m. The angle that the string makes with the ground is 32° . **Sketch the diagram.** Calculate the vertical height of the kite. (3.61 m)
- 8) A 12 m ladder is leaned against a wall, with the base of the ladder 1.5 m from the wall. **Sketch the diagram.** Find the angle between the ladder and the ground. (83°)
- 9) From a point 145 m above the ground in a control tower, the angle of depression to an airplane on the tarmac is 31° . **Sketch the diagram.** How far is the airplane from the observer in the control tower? (281.53m)

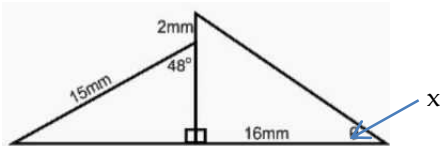
10) Two triangle multiple step questions.

Find the following. You will need to solve for more than one side or more than one angle.

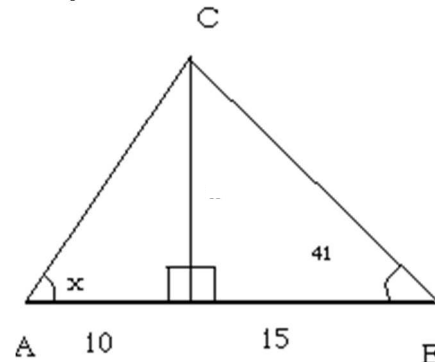
You may need to do the following or combinations of the following:

- find the common side to both triangles and then use that side to in the second triangle to find side x or angle x
- find the angles in two triangles and add together
- find two sides and add or subtract to find the side you're asked to find

a) Find x° . (37°)



b) Find x. (13.04)



c) From point A, an observer notes that the angle of elevation of the top of a tower (C,D) is 45° and from point B the angle of elevation is 36° . Points A, B and C (the bottom of the tower) are collinear (*form a straight line.*) The height of the tower is 55 m. Label the diagram. Find the distance between A and B (d). (16.09m)

